

AperTO - Archivio Istituzionale Open Access dell'Università di Torino

## Process Intensification through Microwave and Ultrasound Application

### This is the author's manuscript

*Original Citation:*

*Availability:*

This version is available <http://hdl.handle.net/2318/1663897> since 2018-03-26T22:02:52Z

*Terms of use:*

#### Open Access

Anyone can freely access the full text of works made available as "Open Access". Works made available under a Creative Commons license can be used according to the terms and conditions of said license. Use of all other works requires consent of the right holder (author or publisher) if not exempted from copyright protection by the applicable law.

(Article begins on next page)



## **Process Intensification through Ultrasound and Microwave Application**

Emanuela Calcio Gaudino, Giancarlo Cravotto

*Dipartimento di Scienza e Tecnologia del Farmaco, Università degli studi di Torino,*

*Via P. Giuria 9, 10125, Torino, Italia.*

### **Abstract**

*Chemists have always looked for synergism, that is, a combination of tools, reagents, or processes producing a larger effect than the sum of their individual effects. It is expected that in the future organic synthesis will undergo increased automation and require the construction of continuous-flow systems capable of rapid, efficient and scalable automated processes. In this context, our aim is to show how two of the most important, green activation techniques (microwaves and power ultrasound), may be combined to provide a reliable and cost-effective strategy for an increasing number of synthetic transformations.*